

GENERAL NOTE

PARASITOID AND HOSTPLANT RECORDS FOR GENUS *SCHINIA* (NOCTUIDAE) IN TEXAS

Additional key words: *Schinia bina*, *S. arcigera*, *S. chrysell*a, Tachinidae, Hymenoptera.

In an earlier report, R. S. Peigler and S. B. Vinson (1984, Southw. Entomol. 9:48-51) listed 24 species of *Schinia* Hübner collected in Brazos Co., Texas, and commented on abundance of the adults. The present paper deals with some observations on the immature stages. The life-cycle for most species is as follows: eggs are deposited in autumn into flowers of composites (Asteraceae), most species specializing on one or a few host genera. Larvae mature in less than one month, pupation is below ground, and adults emerge the following autumn. Peak abundance of larvae as well as adults is in fall.

We experienced difficulty in associating field-collected larvae with adults because diapause was not terminated by various treatments, and pupae often died before adults emerged. Reared material emerged at the next normal flight time for some species, but this was the exception. A few pupae produced adults only after being held for two or more years. Some parasitoids were equally delayed in emerging as adults. Consequently, some records below are cited as "*Schinia* sp." where we were unable to associate larvae with adults. Interspecifically, *Schinia* larvae are as variable as adults in color and pattern (Covell, C. V. 1984, A field guide to the moths of eastern North America, Houghton Mifflin, Boston, Pl. 29), but larvae can confidently be assigned to this genus based on general appearance.

Previously published records of parasitism in *Schinia* are few. P. H. Arnaud (1978, A host-parasite catalog of North American Tachinidae (Diptera), U.S. Dept. Agr. Misc. Publ. 1319, 860 pp.) listed only one record for a tachinid attacking *Schinia*: *Winthemia quadripustulata* (Fabricius) parasitizing *Schinia septentrionalis* Walker (= *S. brevis* Grote). Only one record for a hymenopterous parasitoid attacking *Schinia* was cited by P. M. Marsh (in Krombein, K. V., P. D. Hurd, D. R. Smith, B. D. Burks (eds.), 1979, Catalog of Hymenoptera in America north of Mexico, vol. 1:263, Smithsonian Press, Washington, D.C.): the braconid *Cardiochiles magnus* Mao in *Schinia* sp. Another braconid, *Microplitis croceipes* (Cresson) (det. by P. M. Marsh) was reared from *Schinia olivacea* J. B. Smith collected in Live Oak Co., Texas, and another tachinid, *Gymnoclytia unicolor* Brooks (det. C. W. Sabrosky) from *Schinia olivacea* in Bexar Co., Texas (R. O. Kendall pers. comm.).

Our larvae were collected in or on composite inflorescences. They were kept individually in the laboratory on artificial diet (Vanderzant, E. S., C. D. Richardson & S. W. Fort 1962, J. Econ. Entomol. 55:140) in plastic shell vials plugged with cotton. It was necessary to isolate larvae to prevent cannibalism, a problem also noted by D. F. Hardwick (1958, Can. Entomol. Suppl. 6:1-116). For hostplants, we follow nomenclature of D. S. Correll and M. C. Johnston (1970, Manual of the vascular plants of Texas, Texas Research Foundation, Renner, Texas, 1881 pp.). All records below are from Brazos Co., in E-central Texas. Species of *Schinia* most commonly collected by us in the larval stage were *S. bina* (Guenée), *S. arcigera* (Guenée), *S. chrysell*a Grote, and *S. bifascia* Hübner. Also, many larvae of *S. nundina* (Drury) were collected from flowers of goldenrod (*Solidago* spp.) in October, but few adults were because they are rarely phototactic.

The following parasitoids were reared:

Diptera

Tachinidae

Plagiomima similis (Townsend). One specimen reared from larva of *Schinia bina* collected in fall. Puparium formed outside host and overwintered before emerging.

Eucelatoria sp. (*armigera* Coquillett of authors). One specimen reared from *Schinia* sp. Puparium formed outside host, adult emerged in fall without diapausing.

Winthemia rufopicta (Bigot). One specimen reared from *Schinia* sp.

Hymenoptera

Ichneumonidae

Ophion sp. (det. R. S. Peigler using I. D. Gauld & P. A. Mitchell, 1981, The taxonomy, distribution and host preferences of Indo-Papuan parasitic wasps of the subfamily Ophioninae (Hymenoptera: Ichneumonidae), Commonwealth Agric. Bur., Slough, 611 pp.). One reared from *Schinia* sp.

Campoletis sonorensis (Cameron). A few reared from 3rd instar *Schinia bina* and *S. chrysellae*. White cocoons formed alongside dried host remains.

Pristomerus spinator (Fabricius). One reared from 2nd instar *Schinia bina*.

Braconidae

Cardiochiles abdominalis (Cresson). Thirty parasitoids reared from *Schinia bina* and *S. arcigera*. Larvae of both host species were collected on *Aster spinosus* Benth.

Microplitis croceipes (Cresson). Two reared from larvae of *Schinia chrysellae* collected on *Xanthocephalum dracunuloides* (DC) Shinnars.

Cotesia marginiventris (Cresson). From larvae of *Schinia chrysellae* collected on *Xanthocephalum dracunuloides* we reared 58 parasitoids. From larvae of *Schinia bifascia* collected on *Ambrosia trifida* L. we reared 13 parasitoids.

Meteoris sp., probably *laphygmae* Viereck. One specimen reared from *Schinia* sp.

Schinia belongs to the same subfamily as *Heliothis virescens* (Fabricius) and *H. zea* (Boddie), two important agricultural pests. Entomologists working on *Heliothis* would be well advised to determine which species of *Schinia* occur in their region and at what population levels, since these could be significant alternate hosts for *Heliothis* parasitoids. Most of the parasitoids listed here attack *Heliothis* (Krombein et al., above).

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